

AMENDMENT UNDER 37 C.F.R. § 1.111
Application No.: 10/542,649

Attorney Docket No.: Q89230

AMENDMENTS TO THE DRAWINGS

Figures 1A-2B are amended to include the legend --Related Art--.

Attachment: Two (2) Replacement Sheets

REMARKS

Claims 15-19 and 27 are pending in the application.. Claims 1-14, 20-26 and 28-45 are withdrawn from further consideration pursuant to 37 C.F.R. § 1.142(b) as being drawn to a non-elected groups, there being no allowable generic or linking claim to the whole claimed invention. These claims are not included in the attached Appendix.

By this Amendment, Applicants add claims 46-51. An Excess Claim Fee payment letter is attached hereto.

Specification

The Examiner has objected to figures 1A-2B for not being designated by a legend indicating that they illustrate Prior Art. By this Amendment, Applicants submit replacement sheets for Figures 1A-2B in compliance with 37 C.F.R. § 1.121(d), which include such a legend in accordance with 37 C.F.R. § 1.84(c). Applicants hereby respectfully request that the objection be withdrawn.

The Examiner has objected to the Specification on the basis of informalities. By this Amendment, Applicants amend the Specification to include the Examiner's suggested additions. Applicants hereby respectfully request that the objection be withdrawn.

By this Amendment, Applicants change the title of the present application to "Process for Producing Multilayer Printed Wiring Board," as per the Examiner's suggestion.

Claim Objections

The Examiner objects to the expressions used in Claims 15-19 and 27, specifically the recitations of both "a surface" and "a rear surface." By this Amendment, Applicants amend

these claims to change “a surface” to “a front surface.” Applicants hereby respectfully request that the objection be withdrawn.

Claim Rejections - 35 U.S.C. § 102(b)

Claims 15-18 and 27 are rejected under 35 U.S.C. § 102(b) as being anticipated by Sakamoto et al (US 6,281,446, [hereinafter “Sakamoto”]).

Sakamoto discloses a multi-layered circuit board having 2 components, a carrier board and a motherboard. Both of these components can be built as multilayered circuit boards. The carrier board is built separately, with a higher circuit density than the motherboard. It is then inserted into a cavity in the motherboard and the components are electrically bonded to form a completed wiring board. Col. 2 line 53-65. Sakamoto focuses on the different densities of the boards and the insertion of the carrier board into a cavity in the motherboard. It does not focus on minimizing waste or maximizing flexibility in designing a multi-layered wiring board, as the present invention does.

Regarding independent claims 15, 16, and 27 of the present application, these claims disclose a method of creating a multi-layer printed wiring board comprising a partial wiring board with a predetermined outer shape which is laminated onto the surface of a motherboard. This design allows flexibility in designing the multi-layered wiring board, as the position of the partial wiring board is not constrained by the location of cavities in the motherboard, unlike in Sakamoto. It also minimizes waste, as the partial wiring board does not need to be built to fit the size of the motherboard or a cavity created therein.

Significantly, the present application claims “laminating” a base material, while the Sakamoto patent claims “arranging [a carrier board] within” a cavity in a motherboard. Applicants submit that the process of laminating is different from the process of Sakamoto, which discloses a motherboard that requires a specially made cavity, as well as solder, gold bumps, or conductive paste to bond the carrier board this cavity in the motherboard. Applicants further submit that Sakamoto does not disclose or suggest laminating a carrier board to the motherboard. Accordingly, Applicants respectfully submit that Sakamoto does not anticipate claims 15, 16, or 27, and that claims 17 and 18 are allowable at least by virtue of their dependency from independent claims 15 and 16. Applicants therefore respectfully request that the rejection of these claims be withdrawn.

Claim Rejections - 35 U.S.C. § 103(a)

Claim 19 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Sakamoto.

The Examiner acknowledges that Sakamoto does not disclose the step of forming a cover layer for coating the wiring boards. The Examiner asserts that it would have been obvious to one having ordinary skill in the art to form such a cover layer, to render the printed circuit board safe from the environment.

Applicants respectfully submit that as Sakamoto does not render the elements of the independent claims obvious, claim 19 is allowable at least by virtue of its dependency from independent claims 15 and 16. Applicants therefore request that the rejection be withdrawn.

New Claims

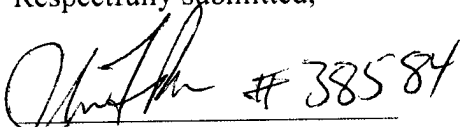
By this Amendment, Applicants add claims 46-51, to further define the features of the present invention and distinguish it from Sakamoto. Applicants respectfully submit that these claims are allowable at least by virtue of their respective dependencies from independent claims 15, 16, or 27.

Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,


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